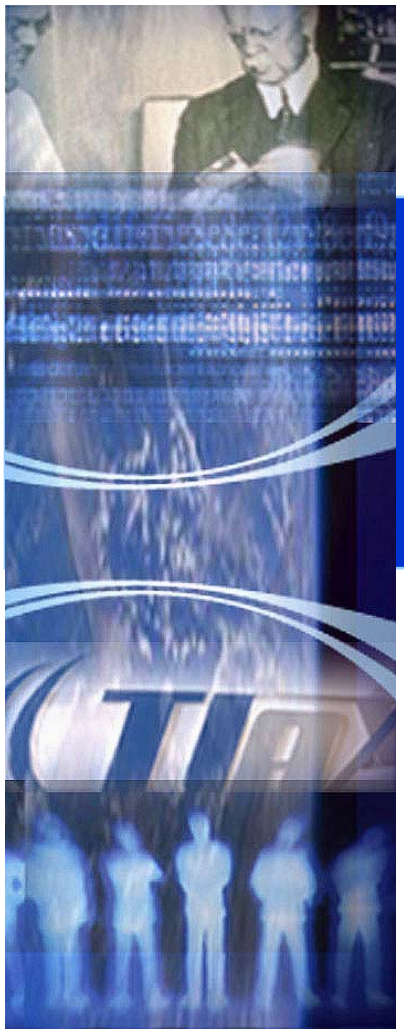

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Comments of the California Electric Transportation Coalition on NOPR for Alternative EPAct Compliance (RIN 1904-AB66)

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Overarching Cal ETC Comments

- Cal ETC supports the overall goals and objectives of a Waiver program
- We strongly support a program that helps advance commercialization and deployment of cutting-edge vehicle technologies that can:
  - Maximize fleet petroleum displacement through high-efficiency electric-drive systems
  - Provide "collateral" benefits such as reduced criteria pollutants and greenhouse gases
  - Help move American's transportation system towards energy independence and long-term sustainability
- DOE staff are to be commended for crafting the NOPR with flexibility
- Cal ETC's comments today specifically focus on changes or clarifications for the Guidance Document that can:
  - Provide standardization for inputs and outputs of waiver applications
  - Help ensure "user-friendliness" of application process
  - Help reduce administrative burden of reviewing / verifying applications

Section 490.803 Wording

(c) . . . State or covered person must provide DOE with the following information:

(5) **The anticipated amount of gasoline and diesel and alternative fuel** (calculated in gasoline gallon equivalents (gge) using the **conversion table** provided on the FreedomCAR and Vehicle Technologies Program Web sit at (website listed)) to be used by the light-duty vehicles in the fleet for the waiver year, including **an estimate of per vehicle average fuel use in these vehicles**.

Cal ETC recommends that DOE clarify / confirm:

- That **this requirement** establishes the fleet's baseline petroleum usage for light-duty vehicles
- That this (apparently) includes a prediction of fuel consumption for AFVs that *would have been purchased* during the upcoming waiver year
- That **the referenced table** is not applicable for estimating or calculating *actual petroleum reductions* during the waiver year (next slide)
- What is meant by "**per vehicle average fuel use**": a breakdown by specific types of vehicles and fuels, or just the LDV fleet average? e.g.:

10,000 GGE / 20 LDVs = 500 GGE / LDV

Recommendation: clarify the intended use of the referenced "conversion table"

Alternative Fuel Conversion Factors to GGE			
Fuel Type	**Fuel Measurement Unit**	**Conversion Factor**	**GGE Calculation**
B100	gallons	1.015	GGE = B100 gal x 1.015
B20	gallons	1.126	GGE = B20 gal x 1.126
CNG	gallons at 2400 psi	0.18	GGE = CNG gal (at 2400 psi) x 0.18
CNG	gallons at 3600 psi	0.27	GGE = CNG gal (at 3600 psi) x 0.27
CNG	gallons at 3000 psi	0.225	GGE = CNG gal (at 3000 psi) x 0.225
CNG	hundred cubic feet	0.83	GGE = CNG ccf x 0.83
Diesel	gallons	1.147	GGE = Diesel gal x 1.147
E-85	gallons	0.72	GGE = E-85 gal x 0.72
Electric	kWh	0.03	GGE = Ele kWh x 0.03
Gasoline	gallons	No conversion needed	GGE = Gasoline gal
Hydrogen	kg	1	GGE = H2 kg x 1
LNG	gallons @ 14.7psi and -234 degrees F	0.66	GGE = LNG gal x 0.66
LPG	gallons	0.74	GGE = LPG gal x 0.74

Example

If you used 115 gallons of B20, the equation would be: 115 gal B20 x 1.126 = 129.49 GGE

Concern: This table and **the example** refer to energy content of the various fuels, but fail to fully account for non-petroleum components.

Result: It's true that **B20 = 1.13 GGE in Btu content,** but each B20 gallon displaces only about 1/5 of a GGE. *The table should not be used for calculating petroleum displacement.*

Section 490.803 Wording (continued)

(d) (1) The petroleum reduction . . . . planned actions must be:

i. Verifiable;

ii. Involve a reduction in petroleum use by **motor vehicles** owned, operated, leased or otherwise controlled by . . . the covered person;

Cal ETC Comments:

- We strongly concur with "verifiable"; and provide recommendations to help standardize applications, which will:
  - Assist fleets in preparing "apples-to-apples" applications
  - Significantly reduce DOE's administrative burden to review / verify
- If the **wording** in (ii) precludes off-road vehicles, we strongly recommend that DOE reconsider, because:
  - Off-road vehicles in AFP fleets consume large volumes of petroleum fuel in transportation applications
  - Major opportunities exist to (verifiably) reduce petroleum consumption

All fleet vehicle applications that offer real, quantifiable, surplus and verifiable petroleum displacement benefits should be eligible in an EPAct waiver application

For example: electric forklifts make very defensible and viable options for waiver requests . . . as long as it can be clearly demonstrated that gasoline or diesel forklifts are the baseline purchase options.

Important: mechanisms already exist (e.g., California's Carl Moyer Program) to ensure that petroleum reductions will be verifiable.

Replacing a gasoline or diesel forklift with a comparable electric forklift:

- *Displaces about **6,600** lifetime gallons*
- *Typical AFV displaces about **2,650** lifetime gallons*

Section 490.803 Wording (continued)

(d) (1) The petroleum reduction . . . . planned actions must:

iii. Deliver a net reduction in petroleum consumption equal to the amount of alternative fuel the fleet's inventory of alternative fuel vehicles, including alternative fuel vehicles that the State or covered person would have been required to acquire in waiver years, would use if operated 100 percent of the time on alternative fuel

Cal ETC's Comments:

- Suggest clarifying in examples (even if considered obvious): any AFV already in fleet's inventory is contributing to "net reduction" – as long as the AFV continues to use alternative fuel 100% of time
  - In this case, for a given waiver year the fleet essentially must identify and implement petroleum reductions to offset its new LDV purchases
- The proposed Waiver program will require fleets to track and predict fuel usage across all vehicle categories, with LDVs broken out separately
  - Many fleets do not track fuel usage in this way. We recommend providing fleets with standardized formulas to estimate or default values.

Section 490.803 Wording (continued)

(d) (1) The petroleum reduction . . . . planned actions must:

iii. Deliver a net reduction in petroleum consumption equal to the amount of alternative fuel the fleet's inventory of alternative fuel vehicles, including alternative fuel vehicles that the State or covered person would have been required to acquire in waiver years, would use if operated 100 percent of the time on alternative fuel

Cal ETC Comments:

- The underlined wording of this critical clause refers to **a hypothetical AFV purchase,** which by definition is **not verifiable**
- Flexibility is good, but "gaming of the system" may occur in this case
- Standardization to a "typical" AFV choice is needed to guide fleets and assist DOE in evaluating waiver applications consistently / fairly

  Recommendation: Direct fleets to categorize each foregone AFV purchase as either a standardized E-85 FFV car or L-D pickup FFV using E-85 100% of the time. Fleet-specific mixes should be reported.

Section 490.803 Wording (continued)

(d) (1) The petroleum reduction . . . . planned actions must:

iii. Deliver a **net reduction** in petroleum consumption . . . .

Cal ETC's Comments:

- The NOPR affords total flexibility for applicants to identify potential waiver options and *translate them into verifiable petroleum reductions*
- Some type of common methodology may be needed to avoid confusion and compliance inequity
- **Standardization** of inputs and outputs can be very useful to:
  - Normalize all applications to common terms, while still providing flexibility in compliance approaches
  - Assist fleets in choice of waiver vs. conventional compliance path
  - Reduce DOE's administrative burden to review / verify
  - Help avoid challenges of inequity or unfairness

For the Guidance Document, Cal ETC recommends that DOE offer a standardized template for waiver requests

- Adapt existing EPAct reporting Form DOE/FCVT/101 for template
- Add new reporting fields and calculations as described in NOPR examples
- Include two FFV choices (LDV or LDT) to serve as baseline "avoided" AFV purchases
- Provide and require standardized fuel economy factors for LDVs
- Provide examples of potentially viable and quantifiable "waiver" options
- Assist applicants with critical calculations, e.g., how to:
  - Estimate baseline petroleum usage in LDV fleet for waiver year, including existing LDVs and standardized "avoided" AFV purchases
  - Perform other basic math to help define reduction targets
  - Determine petroleum reductions in fleet from specific waiver options
  - Calculate total equivalent petroleum reductions in the vehicle fleet for the waiver year

Standardization now will help lay the ground work for incorporating emerging electric-propulsion technologies, which are already becoming available for fleets to demonstrate

Typical utility boom truck: platforms are emerging, expected or possible that include gasoline or diesel HEVs, plug-in HEVs, and natural gas HEVs

Sprinter Plug-In Hybrid: utilities such as PG&E and SCE are actively supporting and demonstrating this vehicle technology with Daimler Chrysler

- Cal ETC supports a strong, equitable EPAct Waiver Program, and commends staff for crafting a flexible NOPR
- Cal ETC believes that the Guidance Document can maintain this flexibility, while also incorporating very beneficial types of **standardization**
- Specific suggestions for standardization that will benefit both fleets and DOE staff include the following:
  - Template for critical calculations (such as an expanded version of existing Form DOE/FCVT/101)
  - Common methodology to calculate baseline fuel usage, including suggested defaults for per-vehicle LDV fuel usage (when fleets lack data)
  - Use of assigned LDV fuel economy factors (e.g., www.fueleconomy.gov) wherever applicable
  - Example viable "waiver" options, and calculations for per-vehicle equivalent petroleum reductions
- Cal ETC will provide specific examples in written comments to the NOPR

Back-up Slides (if Useful)

TIAX, on behalf of Cal ETC, has prepared a "Waiver Calculator" that could be used by all fleets to prepare standardized waiver applications

- Offers a menu of options for fleet users to achieve equivalent (or better) petroleum displacement
- Follows the same simple format as the existing EPAct reporting protocol
- Presents standardized petroleum displacement values for Waiver Options that are automatically calculated in GGE of petroleum displacement
- Provides outputs designed to assist the user in determining:
  - If EPAct requirements have been met, and by what means
  - If additional credits have been generated for banking
  - If LDV procurement needs and plans have been met for the fleet
- Bonus: can provide users with tools to help plan an overall "Green" fleet
  - Low critieria pollutant emissions
  - Low greenhouse gas emissions
- Can assist DOE in reviewing all waiver applications on an equivalent basis with reduced manpower required

The Calculator has a single Input-Output page for entering all fleet information and determining equivalent petroleum usage reductions through "waiver" options